Asylum (Western) Avenue Viaduct
State Rt. 62 spanning Second Creek and
Southern Railroad
Knoxville
Knox County
Tennessee

HAER No. TN-29

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Southeast Region
Department of the Interior
Atlanta, Georgia 30303

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HISTORIC AMERICAN ENGINEERING RECORD

ASYLUM (WESTERN) AVENUE VIADUCT HAER NO. TN-29

Location:	Western Avenue (State Route 62) spanning the Southern Railroad and Second Creek, Knoxville, Tennessee U.S.G.S. 7.5 minute Knoxville (147 NW), Tennessee, quadrangle, Universal Transverse Mercator Coordinates: (A) 17.236065.3983790 and (B) 17.236360.39837915
Date of Construction:	1909
Designed by:	W. B. Crenshaw and David Meriwether, Knoxville, Tennessee
Contractor:	Foster-Creighton-Gould Company, Nashville, Tennessee
Supervising Engineer:	L. W. Frierson
Present Owner:	Tennessee Department of Transportation Suite 700 - James K. Polk Building 505 Deaderick Street Nashville, TN 37243
Present Use:	Vehicular Bridge To be demolished 1992
Significance:	The Asylum (Western) Avenue Viaduct is one of the oldest known continuous deck girder bridges erected in the United States. The contractor for the bridge was the Foster-Creighton-Gould Company of Nashville, Tennessee. Today known as the Foster Creighton Company, it is a major firm in the southeast.
Report Prepared by:	Martha Carver Historic Preservation Specialist Supervisor Tennessee Department of Transportation Environmental Planning Office Suite 900 - James K. Polk Building 505 Deaderick Street Nashville, Tennessee 37243-0334
Date:	June 1986

The Asylum Avenue Viaduct, a nine span continuous concrete deck girder bridge, is located in downtown Knoxville in Eastern Tennessee. It spans Second Creek, Jackson Avenue, and active tracks of the Southern Railway. It is located in an area of Knoxville dominated by the railroad and which includes railroad influenced structures such as the Louisville and Nashville Freight Depot (N.R.), the Louisville and Nashville Passenger Depot (N.R.), the Louisville and Nashville Hotel, and various warehouse facilities. Visually, the bridge served as a historical link between the downtown area on the eastern end with its industrial and commercial concerns and the residential neighborhoods on the western end typified by Fort Sanders (N.R.). The Asylum Avenue Viaduct, now known as the Western Avenue Viaduct, was built in 1909. Its significance is derived from its status as one of the oldest known continuous concrete deck girder bridges erected in the United States.

The primary financial burden for the new bridge was borne by the City of Knoxville. However, in addition to crossing Second Creek, the viaduct crossed railroad tracks belonging to Southern Railway and the Louisville and Nashville Railroad. These railroad companies agreed to pay a portion of the cost of the new viaduct and thus reviewed and had some approval control over the final plans for the bridge. It is possible that this involvement by the railroads is the reason that the new bridge was an advanced design, a continuous concrete deck girder, since during this period railroad bridges were usually far more advanced in design concept than highway bridges.

From newspaper accounts, it appears that replacement of the Old Asylum Avenue bridge had been seriously considered for some years. However, due to the difficulty in getting the different parties involved to agree, it was November 1909 before the contract for the new bridge was awarded. Work began on the Asylum Avenue Viaduct 22 November 1909 and was finished 18 August 1910. Some preliminary design work was done by W. H. Burk of Knoxville, but the final design was credited to W. B. Crenshaw and David Meriwether of Knoxville. The contractor was the Foster-Creighton-Gould Company of Nashville, the lowest bidder at $47,118.00 of nine bidders.1 The supervising engineer was L. W. Frierson. Little is known about any

of these men. However, the Foster-Creighton-Gould Company was a major contracting firm in the Tennessee area. When hired for this project, the firm had just completed a $1,000,000 project erecting "two very handsome bridges over the Cumberland River at Nashville, which are said to be two of the finest bridges in the south."2 The firm, now operating as the Foster-Creighton Company is still a major firm in the Southeast.

As mentioned above, the Asylum Avenue Viaduct is composed of nine continuous concrete deck girder spans. By the mid-twentieth century, continuous girder span bridges were recognized as one of the most cost-efficient types of bridges to erect, and today it is the most common bridge type used in new construction. However, in 1910 it was a new and innovative design. One author recently wrote that as the use of concrete arch or girder bridges developed, "The continuous concrete girder first appeared in 1909-10 in the Asylum Avenue Viaduct at Knoxville, Tennessee, and since then, in either form (the girder or continuous girder), it has become the most commonly used type."3

Two accounts regarding the Asylum Avenue Viaduct appeared in the December 15, 1910 issue of Engineering News.4 The first story is an article describing in detail the appearance and construction of the viaduct. The second article is an editorial extolling the virtues of this type of span for certain bridges.

While it is not clear when the first continuous concrete girder bridge was built, it would seem that the Asylum Avenue Bridge was a very early example of this type of design and received national attention in the engineering field as such.

A plaque on the rail indicates the bridge was erected in 1909 when John M. Brooks was Mayor. The Building Committee was composed by John P. Murphy, T. B. Cox, James Welcker, W. S. Nash, and John McCoy. The Board of Public Works consisted of R. B. Ragsdale and William Brakebell with the Chairman being John W. Flenniken. The Designing Engineers were W. B. Crenshaw and David Meriwether, and the Supervising Engineer was L. W. Frierson. The Contractor was the Foster-Creighton-Gould Company of Nashville.

The bridge is 350 feet in length. It contains nine spans with a curve at the third span (from the east side). From east to west, the nine spans are 46, 46, 46, 48, 48, 23, 23, 23, and 23 feet in length. The curb-to-curb width is 28.75 feet containing three traffic lanes. Two 5.7-foot sidewalks and parapet rails extend the out-to-out width for 29.8 feet. The parapet railing is original and contains recessed rectangular panels. The substructure is of concrete construction. Each bent is composed of three columns underneath a cap beam which is an integral component of the superstructure. The deck itself is supported on a seven-beam (girder) cross section. The bridge was originally paved with brick but is now covered with modern pavement.

FOOTNOTES

[1]Knoxville Journal and Tribune, 10 November 1909.

[2]Ibid.

[3]David Plowden, Bridges (New York; Viking Press, 1974), p. 320.

[4]Engineering News, 15 December 1910, pp. 643-645, 659.

BIBLIOGRAPHY

Bridge Inspection Report 47-SR62-16.34. Available at Office of Tennessee Department of Transportation, Nashville, Tennessee.

Engineering News. 15 December 1910.

Knoxville Journal and Tribune, 1909. Specific issues include 23 January, 6, 20, 27 February, 20 March, 15, 21 May 21 August, 4 September, 29 October, 6 November, 10 November 1909.

Pen and Sunlight Sketches of Nashville. Nashville: American Illustrating Company, N.D. Early photographs of the bridge are available on page 102.

Plowden, David. Bridges. New York: Viking Press, 1974.

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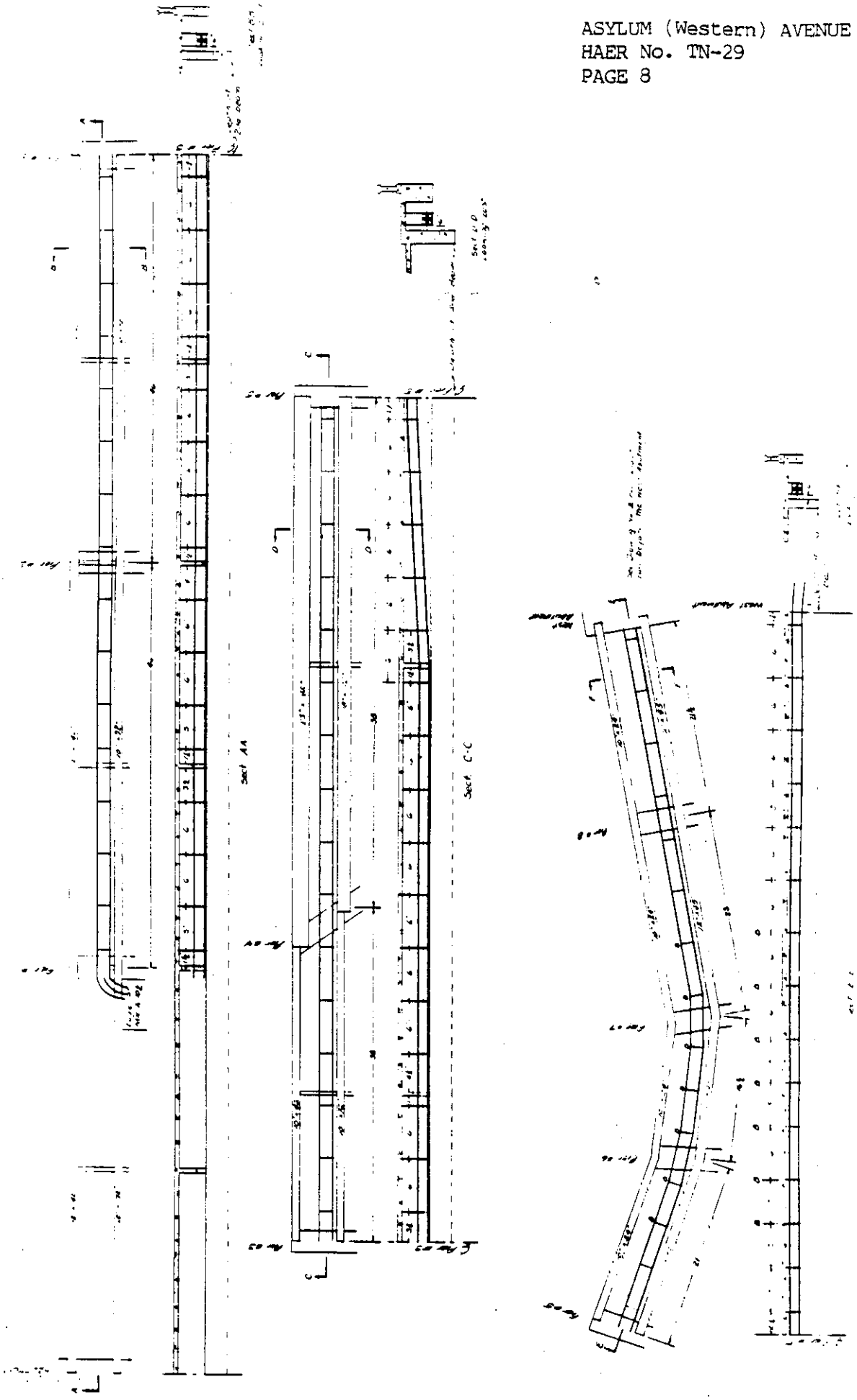
OLD KNOXVILLE CITY HALL
SUMMIT HILL DR.
BROADWAY
ST.
L&N PASSENGER STATION
WESTERN (Asylum) AVENUE VIADUCT
L&N FREIGHT DEPOT
KNOXVILLE IRON FOUNDRY
AVE.
AVE.

Project Map
Showing National Register
Listed or Eligible Properties
in Project Impact Area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